

World Cancer 2020: Targeted knockdown of IQGAP1 fully inhibits-The progression of colorectal carcinoma cell *in vitro* by modulation of Ras and TRAILS Genes Expression- Khairy M A Zoheir- National Research Centre

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For many years, the medical setting up has called the chronic or life-threatening diseases incurable. But now, The gene therapy compromises hope for those looking for release from hundreds of different diseases.

The objective of this application was to determine the outcome of inhibiting IQGAP1 and consequently Ras family genes and TRAIL-induced apoptosis in colorectal carcinoma cells (HCT166) and to delineate the mechanism of such modulation. We investigated the impact of IQGAP1 silencing on the interactions of IQGAPs and RAS with several apoptotic, pre-apoptotic and anti-apoptotic genes, including caspase-3 (CASP3), BCL2-associated X protein (BAX), B-cell leukemia/lymphoma 2 (BCL2), TRAIL1, DR4, DR5, CXCR1, CXCR2, Dcoy receptor 1, Dcoy receptor 2, and Cxcr3 and programmed cell death 5 (Pcd5).

Additionally, we investigated the effects of the interactions of these genes on cell viability, proliferation, apoptosis, and invasive capacity. IQGAP1 siRNA-treated HCT166 cells showed very low invasive capacity than the control cells, and this stopping of invasive capacity was time- and vector concentration-dependent. In addition, IQGAP1 silencing resulted in highly significantly lower IQGAP1, HRAS, KRAS, NRAS, MRAS, and BCL2 level and, subsequently, higher IQGAP2 and IQGAP3 expression in HepG2 cells than in the control. Flow cytometry analyses indicated that the silencing of IQGAP1 can induce early and late apoptosis in HCT166 cells. Additionally, IQGAP2, IQGAP3, DR4, DR5, CXCR1, CXCR2, Dcoy receptor 1, Dcoy receptor 2, Cxcr3 and programmed cell death 5 (Pcd5), CASP-3, and BAX were upregulated whereas IQGAP1 and BCL2 were down regulated in the siRNA-treated cells. These findings indicated that IQGAP1 actually regulates the expression of IQGAP, RAS and TRAILS gene families, and demonstrate its regulatory role in the apoptotic network.

RNAi is our way to wellness. One of the most alternative cancer therapies,

Now, in this study, gene therapy reveals even more on the powerful therapeutic effects of gene silencing. Not only can RNAi reverse the effects of many degenerative illnesses-it can save lives.